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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/726,147	11/29/2000	Sung-Ho Choi	678-569 (P9606)	6538

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EXAMINER

NGUYEN, ALAN V

ART UNIT	PAPER NUMBER
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2662

9

DATE MAILED: 05/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/726,147

Applicant(s)

CHOI ET AL.

Examiner

Alan Nguyen

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12, 16 and 20 is/are rejected.
- 7) ☒ Claim(s) 11, 13-15, 17-19, and 21-35 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6, 8.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the description is incomplete. See line 9. Correction is required. See MPEP § 608.01(b).

Claim Objections

2. Claims 1, 2, 7, 15, 19, 26, and 35 are objected to because of the following informalities:

In **claim 1**, on lines 5 and 9, "channels" should read -- channel --.

On line 13, clarification is required for the phrase "station currently unused".

In **claim 2**, on line 18, "according the" should read -- according to the --.

In **claim 7**, on line 2, "transmitting acquisition" should read -- transmitting the acquisition --.

In **claim 15**, on line 11, clarification is required for the phrase "the number of bit (i) as to".

On line 21, "(j.r.R)" should read -- (j,r,R) --.

On line 24, "(i.r.s.R)" should read -- (l,r,s,R) --.

In **claim 19**, on line 22, clarification is required for the phrase "the number of bit (i) as to".

On line 32, "(j.r.R)" should read -- (j,r,R) --.

On line 4 on the proceeding page, "(i.r.s.R)" should read -- (l,r,s,R) --.

In **claim 35**, on line 16, clarification is required for the phrase "the number of bit (i) as to".

On line 26, "(j.r.R)" should read -- (j,r,R) --.

On line 29, "(i.r.s.R)" should read -- (I,r,s,R) --.

In **claim 26**, on line 2, "transmitting access" should read -- transmitting an access --.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3-10, 12, 16, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Parsa et al (US 6,643,318) hereafter Parsa.

Regarding **claims 1, 16, and 20**, Parsa discloses a method of base station - mobile station operation in a CDMA communication system, comprising the steps of:

transmitting use state information of each physical packet channel and maximum available data rate information of the physical packet channel on channel state

indication channel (**Status Indicator Channel [CSICH] contains broadcast status information relating to availability of every Common Packet Channel [CPCH] and also available packet rates; for example see col 9 lines 9-20);**

receiving, in the base station, information indicating that a mobile station has data to transmit and selects an unused physical packet channel, using an access preamble (**the mobile station transmits to the base station an access preamble that contains a signature that identifies one of the available Common Packet Channels; see col 10 lines 8-25); and**

transmitting an acquisition indicator signal (**Access Preamble - Acquisition Indicator Channel acknowledgement AP-AICH**) for indicating an allowance of usage of the selected physical packet channel to the mobile station when the base station currently unused the selected physical packet channel (**The base station responds with an acknowledgement AP-AICH and the mobile station begins to send its packet data to the granted Common Packet Channel. Regarding claims 16 and 20 the available data rates are rates that the base station can support; see col 10 lines 23-24 and 48-52).**

Regarding **claim 3** Parsa discloses where the maximum available data rate is a currently supportable maximum data rate on a physical packet channel in the base station (**the status information indicates the available data rates of the every CPCH; col 9 lines 18-20).**

Regarding **claim 4** Parsa discloses where the physical packet channels are physical common packet channels (**a Physical Common Packet Channel is used to carry the logical CPCH; for example see col 6 lines 9-11**).

Regarding **claim 5** Parsa discloses where one frame of the acquisition indicator signal (**The acquisition indicator signal, AICH, is contained in the status indicator channel, CSICH**) is comprised of a plurality of access slots, where the use status information of the physical packet channels and the maximum available data rate information are transmitted through a given number of unused bits out of the bits constituting the access slots (**The CSICH frame consists of 15 access slots. The status information part and the maximum available data rate comprise a portion of the 40 bits in each access slot; see col 9 lines 9-35**).

Regarding **claim 6** Parsa discloses where one frame of the acquisition indicator signal is comprised of 15 access slots (**The CSICH contains the AICH. The CSICH frame consists of 15 access slots; col 4 lines 42-48; col 9 lines 21-35**).

Regarding **claim 7** Parsa discloses where each one of the access slots is comprised of 32 bits for transmitting acquisition indicator signal in response to the access preamble and 8 bits for transmitting the use status information of the physical packet channels and the maximum available data rate information (**Each frame has a length is 40 bits,**

with the status indicator part consisting of 8 bits, and the AICH being 32 bits; col 9 lines 21-35).

Regarding **claim 8** Parsa discloses where the number of the use status information bits of the physical packet channels is determined depending on the total number of the physical packet channels which are presently used or may be used in the base station **(The number of bits used inherently depends on the number of physical packet channel that are present).**

Regarding **claim 9** Parsa discloses where the use status information of the physical packet channels is transmitted through at least one of the plurality of access slots, and the maximum available data rate information is transmitted through the remaining access slots **(The CSICH is used to broadcast status information and available packet rates of the CPCHs; see col 9 lines 9-20; Each access slot in the CSICH frame consists of a status indicator part. The maximum data rate is also contained in each access slot; col 9 lines 21-35).**

Regarding **claim 10** Parsa discloses where the maximum available data rate information is repeatedly transmitted at predetermined times through at least one of the plurality of access slots, and the use status information of the physical packet channels is repeatedly transmitted at predetermined times through the remaining access slots **(Column 7 lines 60-67 discloses that Common Packet Channels status**

information is periodically broadcasted through the CSICH. The periodicity can be constant; see col 7 lines 55-67 and col 8 lines 1-3. Each access slot in the CSICH frame consists of a status indicator part, and the maximum data rate is also contained in each access slot; col 9 lines 21-35).

Regarding **claim 12** Parsa discloses where the use status information of the physical packet channels and the maximum available data rate information are distributed to a predetermined number of unused bits out of the bits constituting the access slots (**Each frame has a length is 40 bits, with the status indicator part consisting of 8 bits; col 9 lines 21-35).**

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parsa in view of Cao et al (US 6,647,005) hereafter Cao.

Regarding **claim 2** Parsa discloses the use of numerous status information and maximum available data rate information (**Status Indicator Channel [CSICH] contains broadcast status information relating to availability of every Common Packet Channel [CPCH] and also available packet rates; for example see col 9 lines 9-20).**

Parsa, however, fails to expressly disclose the use of multi-code transmission.

Cao discloses a CDMA system with power control that utilizes a multicode scheme **(To achieve a higher bite rate transmission, a multicode scheme is used; for example see col 3 lines 41-43).**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Parsa's CDMA apparatus to utilize multicode transmission and include multicode status information in the Status Indicator Channel broadcast from the base station to the mobile stations, as taught by Cao. The motivation is a faster CDMA system with a higher bit rate transmission in addition to the speed and efficiency improvements already disclosed, such as collision detection, maximum data rate, and the use of common packets channels, as explained by Cao on column 3 lines 40-43.

Allowable Subject Matter

7. **Claims 11, 13-15, 17-19, and 21-35** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Regarding **claim 11** the cited references taken individually or in combination fails to particularly disclose where the number of access slots for transmitting the maximum available data rate information is determined depending on a number indicating a repeating of the maximum available data rate information. Regarding **claim 13** the cited references taken individually or in combination fails to particularly disclose where the use status information of the physical

packet channels is transmitted one time during one access frame period and the maximum available data rate information is repeatedly transmitted at the access frame period. Regarding **claim 14** the cited references taken individually or in combination fails to particularly disclose where the maximum available data rate information is transmitted through the bits in predetermined positions out of predetermined unused bits constituting the access slots, and the use status information of the physical packet channels is transmitted through the remaining unused bits. Regarding **claims 15, 19, and 35** the cited references taken individually or in combination fails to particularly disclose where applying the obtained intermediate values (l, r, j, s, R) to the following equation 38 and 39 to determine the position of the CSICH and the writing state information for the individual physical packet channel to the determined position.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patent is cited to show the state of the art with respect to the use of channel assignment in CDMA systems:

US Patent (5,790,551) to Chan

The following patents are cited to show the state of the art with respect to the use of common packet channels in CDMA systems:

US Patent (6,519,233) to Gutierrez

US Patent (6,717,975) to Kanterakis et al

US Patent (6,389,056) to Kanterakis et al

The following patents are cited to show the state of the art with respect to the use of power control and collision detection in CDMA systems:

US Patent (6,507,601) to Parsa et al

US Patent (5,621,723) to Walton Jr. et al

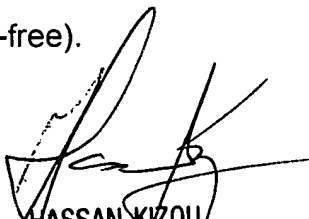
US Patent (6,400,695) to Chuah et al

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Nguyen whose telephone number is 703-305-0369. The examiner can normally be reached on 9am-6pm ET

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 703-305-4798. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AVN
May 7, 2004


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